

**WHAT IS CLAIMED IS:**

1    1.    A method for server cluster power management, comprising the steps of:  
2                 grouping activities within a server cluster into predefined sets;  
3                 assigning a priority level to each set;  
4                 identifying a first server hosting a first set of lower-priority activities within the  
5                 cluster;  
6                 receiving a power interruption signal; and  
7                 diverting power reserves of the first server to another server in the cluster, in  
8                 response to the power interruption signal.

1    2.    The method of claim 1 wherein the grouping step includes the step of:  
2                 grouping activities by data type.

1    3.    The method of claim 1 wherein the grouping step includes the step of:  
2                 grouping activities by process.

1    4.    The method of claim 1 wherein the grouping step includes the step of:  
2                 defining activity sets based on Quality of Service according to a Common Open  
3                 Policy Service Protocol (COPS).

1    5.    The method of claim 1 wherein the assigning step includes the step of:  
2                 assigning the priority level based on the Quality of Service associated with the  
3                 activity set.

1    6.    The method of claim 1 wherein the receiving step includes the step of:  
2                receiving the power interruption signal, in response to a server cluster power  
3                failure.

1    7.    The method of claim 1 wherein the receiving step includes the step of:  
2                receiving the power interruption signal, in response to a network administrator  
3                command.

1    8.    The method of claim 1, further comprising the step of:  
2                diverting the first set of lower-priority activities to another server in the cluster.

1    9.    The method of claim 1:  
2                wherein the identifying step includes the step of,  
3                        identifying a second server hosting a second set of lower-priority activities  
4                within the cluster; and  
5                wherein the diverting step includes the step of,  
6                        diverting power reserves of the second server to another server in the  
7                cluster, in response to the power interruption signal.

1    10.    The method of claim 1 wherein the diverting step includes the step of:  
2                diverting battery power reserves of the first server to another server in the cluster.

- 1 11. The method of claim 1 further comprising the step of:  
2 shifting a set of high-priority activities to operational servers in the cluster, in  
3 response to the power interruption signal..
- 1 12. The method of claim 1 further comprising the steps of:  
2 identifying a second server hosting an activity which is highest on the priority  
3 list;  
4 diverting power reserves from all servers to the second server.
- 1 13. The method of claim 1 further comprising the step of:  
2 incrementally shutting down lower-priority activities on the second server as  
3 power reserves dwindle.
- 1 14. A method for server cluster power management, comprising the steps of:  
2 grouping activities within a server cluster into predefined sets;  
3 assigning a priority level to each set;  
4 identifying a first server hosting a first set of lower-priority activities within the  
5 cluster;  
6 receiving a power interruption signal;  
7 diverting power reserves of the first server to another server in the cluster, in  
8 response to the power interruption signal;  
9 identifying a second server hosting an activity which is highest on the priority  
10 list;

11 diverting power reserves from all servers to the second server, in response to the power  
12 interruption signal; and  
13 incrementally shutting down lower-priority activities on the second server as  
14 power reserves dwindle.

1 15. A computer-readable medium embodying computer program code for commanding  
2 a computer to perform server cluster power management comprising the steps of:  
3 grouping activities within a server cluster into predefined sets;  
4 assigning a priority level to each set;  
5 identifying a first server hosting a first set of lower-priority activities within the  
6 cluster;  
7 receiving a power interruption signal; and  
8 diverting power reserves of the first server to another server in the cluster, in  
9 response to the power interruption signal.

1 16. The medium of claim 15 wherein the assigning step includes the step of:  
2 assigning the priority level based on the Quality of Service associated with the  
3 activity set.

1 17. The medium of claim 15 wherein the receiving step includes the step of:  
2 receiving the power interruption signal, in response to a server cluster power  
3 failure.

1       18.     The medium of claim 15 wherein the receiving step includes the step of:  
2           receiving the power interruption signal, in response to a network administrator  
3           command.

1       19.     The medium of claim 15, further comprising the step of:  
2           diverting the first set of lower-priority activities to another server in the cluster.

1       20.    The medium of claim 15 further comprising the steps of:  
2           identifying a second server hosting an activity which is highest on the priority  
3           list;  
4           diverting power reserves from all servers to the second server.

1       21.    The medium of claim 15 further comprising the step of:  
2           incrementally shutting down lower-priority activities on the second server as  
3           power reserves dwindle.

1       22.    A system for server cluster power management comprising a:  
2           means for grouping activities within a server cluster into predefined sets;  
3           means for assigning a priority level to each set;  
4           means for identifying a first server hosting a first set of lower-priority activities  
5           within the cluster;  
6           means for receiving a power interruption signal; and  
7           means for diverting power reserves of the first server to another server in the  
8           cluster, in response to the power interruption signal.

1        23.     A system for server cluster power management comprising:  
2                servers, hosting a plurality of activity sets each having an associated Quality of  
3     Service (QoS) level;  
4                power reserves coupled to the servers;  
5                a switch matrix coupled to direct the power reserves between the servers; and  
6                a power manager, coupled to the switch matrix, for commanding the switch  
7     matrix to divert power from servers hosting low QoS activity sets to servers hosting high-  
8     priority activity sets, in response to a power interruption.

1        24.     The system of claim 23, wherein the power reserves include:  
2                uninterruptible power supplies with battery backup.

1        25.     The system of claim 23, further comprising:  
2                a QoS line coupling the servers to the power manager for transmitting the QoS  
3     level of the activity sets.

1        26.     The system of claim 25, wherein the QoS line transmits QoS information  
2     according to a Common Open Policy Service Protocol (COPS).

1        27.     The system of claim 23, further comprising:  
2                a power divert line coupling the power reserves to the switch matrix for carrying  
3     the diverted power.